



North Carolina Department of Environment and Natural Resources

Division of Air Quality

Epichlorohydrin

CAS

106-89-8

Current North Carolina AAL = $8.3 \times 10^{-2} \text{ mg/m}^3$ (annual carcinogen)

AAL Documentation

$$\text{Inhalation Unit Risk}^1 (\text{IUR}) = 1.2 \times 10^{-6} \text{ per } \mu\text{g/m}^3$$

The Inhalation Unit Risk Factor was divided by 10 to compensate for animal to human extrapolation.

$$\text{Modified IUR} = \frac{1.2 \times 10^{-6}}{10} = 1.2 \times 10^{-7} \text{ per } \mu\text{g/m}^3$$

Epichlorohydrin is classified as a probable human carcinogen by EPA, Group B2. In accordance with North Carolina guidelines, a 1 in 100,000 risk estimate was used to derive the AAL.

$$\text{Linear Calculation} \quad \frac{1}{1.2 \times 10^{-7} \text{ per } \mu\text{g/m}^3} = \frac{x}{1 \times 10^{-5}}$$

$$x = \frac{1 \times 10^{-5}}{1.2 \times 10^{-7}}$$

$$x = 8.3 \times 10^1 \mu\text{g/m}^3$$

$$\text{AAL for Epichlorohydrin}^2 = 8.3 \times 10^{-2} \text{ mg/m}^3$$

This information has been reconstructed using the decision matrix established by the North Carolina Academy of Sciences Air Toxics Panel, September, 1986.

Final version – June 2013 (NBJ)

¹ EPA Health Assessment Document for Epichlorohydrin, 1984. EPA/600/8-83-032F. Based on mouse nasal carcinoma data.

² $1 \mu\text{g/m}^3 = 10^{-3} \text{ mg/m}^3$